Hypereosinophilic Syndrome With Gastrointestinal Manifestations: A Case Report

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Background

Hypereosinophilia: Two absolute eosinophil counts greater than 1.5 k/mcL taken one month apart OR by histologic confirmation of eosinophilic infiltration of the tissues.

Hypereosinophilic Syndrome (HES): Occurs when hypereosinophilia causes organ damage. Complications include perforation, ischemic colitis, and portal vein thrombosis.

Here is a case of idiopathic hypereosinophilic syndrome involving the GI tract.

Histology

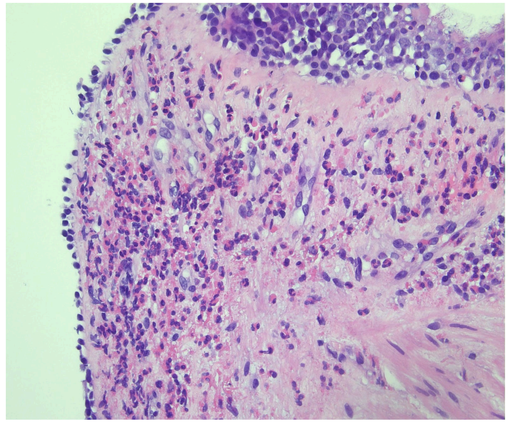

Figure 1. Biopsy of bronchial mucosa showing dense infiltration of eosinophils beneath the bronchial epithelium (greater than 50 per HPF). The granular pink cells are the eosinophils, largely on the left-hand side of the image (400X magnification, H&E stain).

Case Description

A 39-year-old male presented to the hospital with three weeks of burning epigastric pain and diarrhea associated with fever; chills; fatigue; shortness of breath, and macular rash to the lower extremities.

This began days after initiating a 12-day prednisone taper starting at 20 mg twice daily for presumed insect bite reaction. Eosinophils were 6.0 k/mcL on admission. Skin biopsy performed on lower extremities showed diffuse eosinophilic infiltration without evidence of vasculitis. Bronchoscopy revealed eosinophilic infiltration (92% eosinophils) without infection.

ANA, anti-dsDNA, SSA, SSB, scleroderma antibody, C3, C4, RF, IgM, IgE, urine histoplasma antigen, serum coccidioides antibody, and antiphospholipid antibodies were within normal limits.

With eosinophilic tissue infiltration associated with organ dysfunction and absolute eosinophil count >1.5 k/mcL, the patient met criteria for HES.

Two doses of intravenous methylprednisolone 125 mg were administered before starting oral prednisone 60 mg AM and 20 mg PM for 90 days.

The patient's epigastric pain, shortness of breath, and pruritus resolved.

Eosinophilia levels trended down from 9.3 k/mcL to 0.4 k/mcL within three days.

Timeline

Day -23
- Insect bite
- Prednisone taper

Day -21
- Abdominal pain, diarrhea, fever, chills, dyspnea, rash

Day 0
- Admitted to the hospital
- Skin biopsy shows peripheral eosinophilia
- WBC: eosinophil count of 6.0 g/mcL

Day 4
- WBC: eosinophil count of 9.0 g/mcL
- Methylprednisolone dose

Day 6
- Bronchoscopy shows eosinophilic infiltration

Day 8
- Methylprednisolone dose

Day 9
- High dose prednisone taper started

Discussion

GI manifestations are the 3rd most common complication of HES.

Our patient's severe epigastric pain and diarrhea were suggestive of eosinophilic gastroenteritis.

Skin and bronchial biopsies (Figure 1) along with peripheral eosinophilia and multiorgan involvement meeting criteria for idiopathic HES.

EGD and tissue sampling from the GI tract were not obtained as it was unlikely this invasive procedure would have changed the course of management.

The patient responded rapidly to steroid treatment.

Correlation of the patient's hypereosinophilia with his GI symptoms resulted in a less invasive patient experience.

Trending Eosinophils

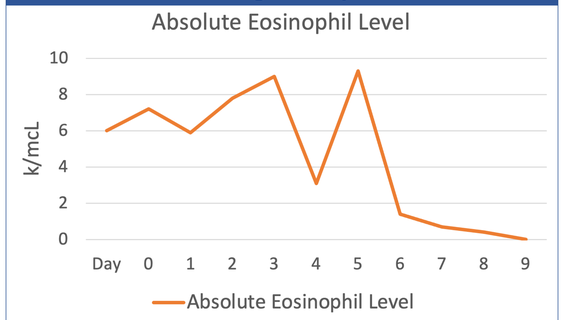

Figure 2. A graph of the patient's absolute eosinophil count by day since admission.

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